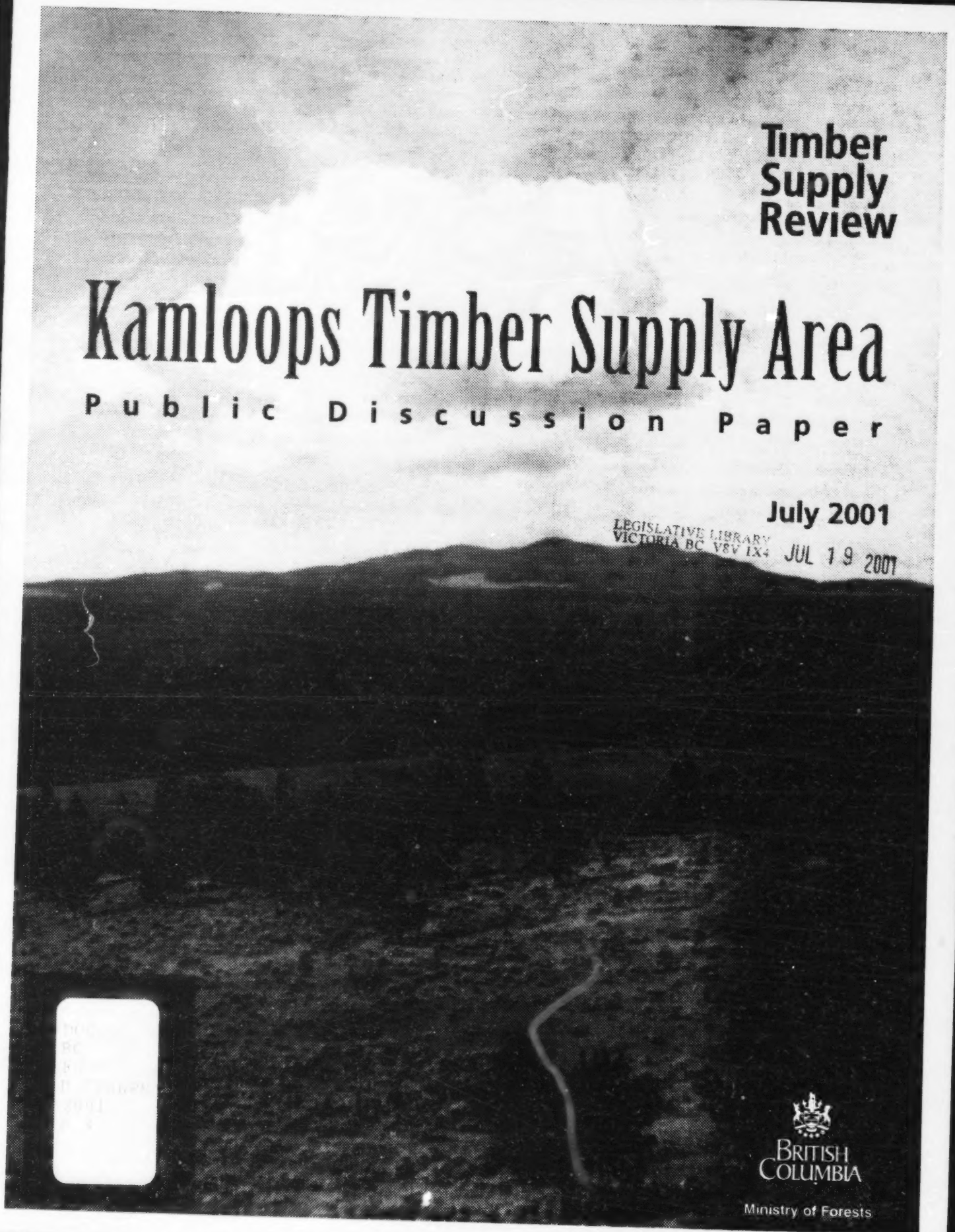


Timber Supply Review

Kamloops Timber Supply Area

Public Discussion Paper

July 2001

LEGISLATIVE LIBRARY
VICTORIA BC V8V 1X4 JUL 19 2001

BRITISH COLUMBIA

Ministry of Forests

LEGISLATIVE LIBRARY OF BRITISH COLUMBIA
3 3298 00246 1821

Introduction

The British Columbia Forest Service is reviewing the timber supply for all timber supply areas (TSAs) and tree farm licences (TFLs) in the province. This review examines the impacts of current forest management practices on the timber supply, economy, environment and social conditions of the local area and the province. Based on this review, the chief forester may, if necessary, adjust the allowable annual cut (AAC) for the Kamloops TSA.

By law, the chief forester must review and set new AACs for all TSAs and TFLs every five years. The objectives of the Timber Supply Review are:

- to identify relevant current forest management practices and assess their effects on short- and long-term timber supply, and identify related economic, environmental and social factors
- to identify where improved information is required for future timber supply forecasts
- to provide the chief forester with information to use when making AAC determinations that will apply for the next five years

Timber Supply Review in the Kamloops TSA

The *Kamloops TSA Data Package* and *Information Report* were released in November 1998. Following the release, the documents were reviewed by licensees, the public and government agencies. The BC Forest Service has now completed the *2001 Kamloops TSA Analysis Report* which is summarized in this discussion paper. The objectives of this discussion paper are to provide British Columbians with an overview of the Timber Supply Review process and harvest level forecasts for the Kamloops TSA and to encourage them to provide comments during the 60-day public review period. **Public comments will be accepted until September 11, 2001.**

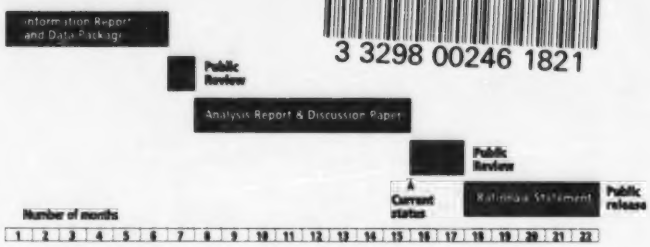
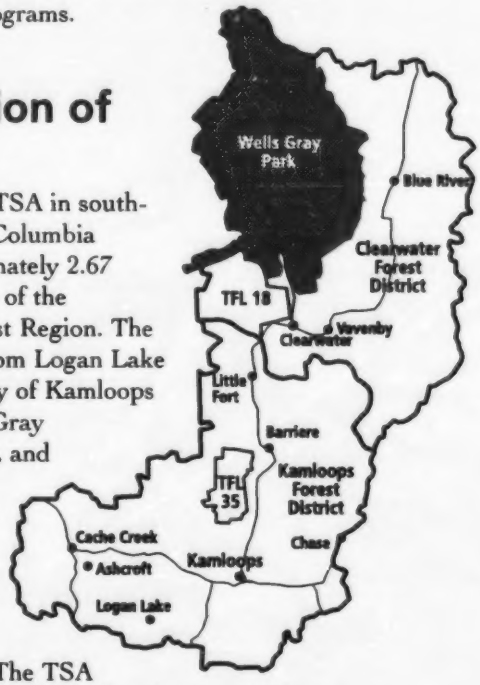

Information Report and Data Package
Public Review
Analysis Report & Discussion Paper
Public Review
Current status
Rationale Statement
Public release
Number of months
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22

Figure 1. *Review process for the Kamloops TSA*

Before setting a new AAC, the chief forester will review all relevant reports and public input. The chief forester's determination will be outlined in a rationale statement which, along with the summary of public input, will be available to the public upon release. Following the release of the AAC determination by the chief forester, the minister of forests will apportion the AAC to the various licences and programs.

Description of the TSA

The Kamloops TSA in south-central British Columbia covers approximately 2.67 million hectares of the Kamloops Forest Region. The TSA extends from Logan Lake south of the City of Kamloops north to Wells Gray Provincial Park, and is bounded in the east by the Columbia Mountains and in the west by the Cariboo/ Chilcotin area. The TSA is administered from the Kamloops and Clearwater forest district offices.



The topography of the Kamloops TSA is one of sharp contrasts, from hot and dry grasslands in the south, to wet and rugged mountains in the north. The Thompson River and its tributaries wind

** A timber supply area is an integrated resource management unit established in accordance with section 7 of the Forest Act.*

through the heart of the area. Major highways pass through exceptional natural scenery, providing easy access to parks, such as Wells Gray Provincial Park, and Banff and Jasper national parks.

The major population centre is Kamloops, where almost 80 per cent of the TSA's population of 101,730 (1996 census) reside. Since 1992, Kamloops has been one of B.C.'s fastest growing municipalities. Other communities include Ashcroft, Avola, Cache Creek, Savona, Chase and Logan Lake in the south, and Barriere, Blue River, Clearwater, Little Fort and Vavenby in the north.

The natural resources

The forest land in the Kamloops TSA provides numerous natural resource values, including forest products (timber and non-timber), forage, minerals, recreation and tourism amenities, and significant wildlife habitat.

The diverse forests of the Kamloops TSA reflect the variety of topography and climate. The dense forests of the north and central areas give way to mixed pine-fir with grasslands in the southern valleys. Douglas-fir and lodgepole pine are the dominant species, though spruce, subalpine fir, western redcedar, western hemlock and hardwoods also occur. The timber harvesting land base—the area considered available for harvesting—comprises about 39 per cent of the total Kamloops TSA.

The diverse landscapes of the Kamloops TSA, including grasslands, rolling uplands, lakes and wetlands, forested plateaus, high-elevation forests and alpine areas, provide a variety of wildlife habitats. Grizzly and black bear, moose, mule deer, California bighorn sheep and marten are common, as are many species of birds and amphibians. The TSA also overlaps a range of a provincially-important herd of mountain caribou.

The Kamloops Land and Resource Management Plan (LRMP) and the Forest Practices Code outline the process for identifying species at risk that require special management. Currently, 32 species identified as at risk may be found in the Kamloops TSA, including tailed frog, sandhill crane, burrowing owl and upland sandpiper.

There are an estimated 1,800 lakes and 40 salmon-producing streams in the Kamloops TSA, as well as many additional fish-supporting streams. These water bodies support some of the finest inland fisheries in BC. Species of high recreational or economic value include rainbow trout, steelhead, kokanee, brook trout, white fish and Dolly Varden. The North Thompson River also contains most of the wild stocks of rainbow trout within the TSA.

The TSA's parks, recreation areas and other Crown lands provide the setting for a host of activities, including camping, hiking, wildlife and scenic viewing, fishing, hunting, hang-gliding, boating, river rafting, mountain biking, four-wheel driving, ATVing, snowmobiling and downhill, heli- and cross-country skiing.

Land use planning

The Kamloops LRMP was approved by government in July 1995 and subsequently declared a higher level plan under the Forest Practices Code. The Kamloops LRMP Monitoring Table provides ongoing public involvement in the implementation of the plan. The timber supply review reflects land-use planning decisions regarding forest practices that are implemented, and protected areas that have received approval from government.

First Nations

Five First Nations have asserted traditional territories within the Kamloops TSA: the Secwepemc, Nlaka'pamux, St'at'imc, Okanagan and South Carrier. Currently, 10 First Nations communities with a combined population of approximately 4,500 are located in the TSA. These include Adams Lake, Bonaparte, Kamloops, North Thompson, Neskonlith, Skeetchestn, Whispering Pines, Little Shuswap, Ashcroft and Oregon Jack. Another nine First Nations communities are located outside the TSA but maintain traditional interests within the TSA. These include High Bar, Spallumcheen, Lower Nicola, Upper Nicola, Xaxl'ip (Fountain), Ts'kw'aylaxw (Pavilion), Cook's Ferry, Lheidli T'enneh Nation and Canim Lake.

An archaeological overview assessment (AOA) was completed in 1995 as a component of the Kamloops LRMP process. The LRMP directs that areas rated in the AOA as having high and medium archaeological potential are to have archaeological assessments completed for operational planning

First Nations people receive some employment opportunities in the forest industry, though they have expressed concerns that they do not receive an equitable share of the timber supply and forest industry employment. First Nations have also expressed concerns about the lack of meaningful consultation, and the impact of logging on water and fishery resources, traditional use areas, heritage

resources and spiritual ceremonial sites in their traditional territories.

Environmental values

Current forest management follows the standards set out by the Kamloops LRMP and the Forest Practices Code. These standards are designed to maintain a range of biodiversity and wildlife values. In the Kamloops TSA, about 26 per cent of the productive forest managed by the Forest Service is not considered available for timber harvesting and will provide for many environmental values. Forested area inside and outside the timber harvesting land base will help to maintain critical forest habitats for many species. Management requirements for biodiversity, scenic areas, ungulate winter range, caribou habitat and community watersheds were included in the analysis.

Current allowable annual cut

The chief forester set the allowable annual cut (AAC) in the Kamloops TSA at 2,679,180 cubic metres, effective March 12, 1996. This level represented an 11 per cent increase from the previous AAC. The increase accounted for two partitions: one of 200,000 cubic metres established for harvesting in older cedar and hemlock stands; and the other of 86,000 cubic metres for the harvest of previously unmerchantable forest types under Pulpwood Agreement 16.

Socio-economic profile

Regional economy

The economy of the Kamloops TSA is well diversified. The City of Kamloops, with an extensive local economy based on trade, administration, services and manufacturing, dominates the economy of the TSA. Forestry is a significant component of the TSA's economy. Other important sectors are mining, tourism, manufacturing and the public sector. Highland Valley Copper south of Kamloops is the third-largest copper concentrator in the world and employs about 1,000 people.

As Figure 2 shows, the public sector is the major employment sector, with tourism and forestry second and third, respectively. The financial, insurance, real estate and business services sector ("other" in Figure 2) makes up another large component of the local economy with 13 per cent of total employment, while construction accounts for 12 per cent of total employment.

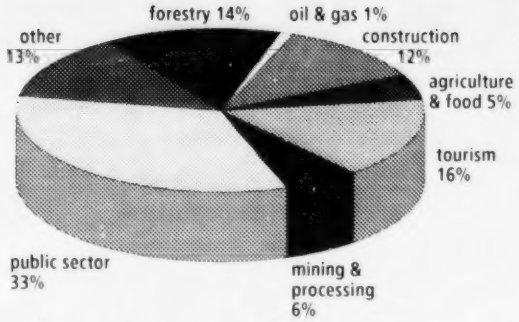


Figure 2. *Kamloops TSA - Total Employment by Basic Sector, 1996*

Source: 1996 Forest District tables, BC Ministry of Finance and Corporate Relations

Notes: The figures are for the Kamloops TSA. Percentages reflect direct, indirect and induced employment supported by the basic sector. "Other" consists of finance, insurance, real estate and other business sources.

The forest sector supports numerous other jobs in the area as a result of companies and employees purchasing goods and services from local businesses. Each 100 full-time direct forestry jobs in the Kamloops TSA are estimated to support another 35-64 jobs, depending on the forestry activity (harvesting or timber processing). By comparison, 100 direct jobs in the mining and mineral processing sector support 39 indirect and induced jobs, while 100 public sector jobs support an additional 14 positions.

Table 1 illustrates the potential contribution of the forest industry associated with the Kamloops TSA timber harvest to both the regional and provincial economies. Figures in this table are based on a harvest level of 2.65 million cubic metres— the current AAC adjusted to account for 31,280 cubic metres transferred to woodlot licences since the last AAC determination.

	TSA	Provincial
Direct employment (person years)	2,262	2,470
Total employment (person years)	3,739	5,140
Total employment income ($1999 millions per year)	112.5	147.9
Provincial government revenues ($1999 millions per year)	n.a.	96

Table 1. *Summary of local and provincial economic information associated with a harvest level of 2.65 million cubic metres.*

resources and spiritual ceremonial sites in their traditional territories.

Environmental values

Current forest management follows the standards set out by the Kamloops LRMP and the Forest Practices Code. These standards are designed to maintain a range of biodiversity and wildlife values. In the Kamloops TSA, about 26 per cent of the productive forest managed by the Forest Service is not considered available for timber harvesting and will provide for many environmental values. Forested area inside and outside the timber harvesting land base will help to maintain critical forest habitats for many species. Management requirements for biodiversity, scenic areas, ungulate winter range, caribou habitat and community watersheds were included in the analysis.

Current allowable annual cut

The chief forester set the allowable annual cut (AAC) in the Kamloops TSA at 2,679,180 cubic metres, effective March 12, 1996. This level represented an 11 per cent increase from the previous AAC. The increase accounted for two partitions: one of 200,000 cubic metres established for harvesting in older cedar and hemlock stands; and the other of 86,000 cubic metres for the harvest of previously unmerchantable forest types under Pulpwood Agreement 16.

Socio-economic profile

Regional economy

The economy of the Kamloops TSA is well diversified. The City of Kamloops, with an extensive local economy based on trade, administration, services and manufacturing, dominates the economy of the TSA. Forestry is a significant component of the TSA's economy. Other important sectors are mining, tourism, manufacturing and the public sector. Highland Valley Copper south of Kamloops is the third-largest copper concentrator in the world and employs about 1,000 people.

As Figure 2 shows, the public sector is the major employment sector, with tourism and forestry second and third, respectively. The financial, insurance, real estate and business services sector ("other" in Figure 2) makes up another large component of the local economy with 13 per cent of total employment, while construction accounts for 12 per cent of total employment.

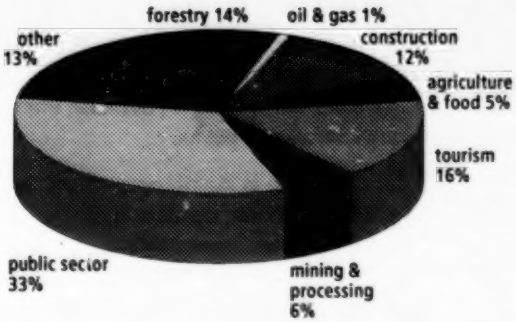


Figure 2. *Kamloops TSA - Total Employment by Basic Sector, 1996*

Source: 1996 Forest District tables, BC Ministry of Finance and Corporate Relations

Notes: The figures are for the Kamloops TSA. Percentages reflect direct, indirect and induced employment supported by the basic sector. "Other" consists of finance, insurance, real estate and other business sources.

The forest sector supports numerous other jobs in the area as a result of companies and employees purchasing goods and services from local businesses. Each 100 full-time direct forestry jobs in the Kamloops TSA are estimated to support another 35-64 jobs, depending on the forestry activity (harvesting or timber processing). By comparison, 100 direct jobs in the mining and mineral processing sector support 39 indirect and induced jobs, while 100 public sector jobs support an additional 14 positions.

Table 1 illustrates the potential contribution of the forest industry associated with the Kamloops TSA timber harvest to both the regional and provincial economies. Figures in this table are based on a harvest level of 2.65 million cubic metres— the current AAC adjusted to account for 31,280 cubic metres transferred to woodlot licences since the last AAC determination.

	TSA	Provincial
Direct employment (person years)	2,262	2,470
Total employment (person years)	3,739	5,140
Total employment income ($1999 millions per year)	112.5	147.9
Provincial government revenues ($1999 millions per year)	n.a.	96

Table 1. *Summary of local and provincial economic information associated with a harvest level of 2.65 million cubic metres.*

Timber supply forecasts

A timber supply computer model was used to project several possible long-term timber supply forecasts. One of these forecasts is the base case forecast which illustrates the effect of current forest management on timber supply. The base case is not an AAC recommendation, but rather it is one of many sources of information the chief forester will consider when setting the AAC.

The base case forecast is presented in this report for discussion and comparison. Due to areas of uncertainty, the AAC determined by the chief forester may be greater or less than the level forecast in the base case.

As Figure 3 shows, the timber supply analysis for the Kamloops TSA indicates an initial harvest level of 2.65 million cubic metres—the current AAC adjusted to account for 31,280 cubic metres transferred to woodlot licences. The initial harvest level consists of 2.36 million cubic metres per year from conventional stands and two partitions: 200,000 cubic metres per year from older cedar/hemlock stands, and 86,000 cubic metres per year under Pulpwood Agreement 16.

The conventional harvest is projected to remain at 2.36 million cubic metres per year for 70 years before declining by five per cent to the long-term harvest level of 2.25 million cubic metres per year. The cedar/hemlock partition is forecast to be maintained for 10 years, and the Pulpwood Agreement 16 partition is projected to be maintained for 20 years, to approximate the duration of the licences associated with these partitions.

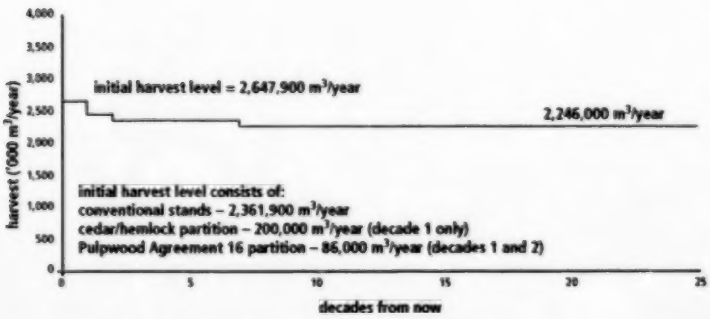


Figure 3. *Base case timber supply forecast, for the Kamloops TSA, 2001*

Several changes have occurred in the Kamloops TSA that affect the base case timber supply forecast, compared to the 1995 timber supply analysis. Though new parks have been declared, the timber harvesting land base is nearly 9.5 per cent larger than in the last analysis, mainly due to inclusion of old hemlock stands and the contribution under Pulpwood Agreement 16. Another change is the implementation of the Forest Practices Code, which has refined the landbase reductions for riparian areas and volume retained for both wildlife tree patches and old forest for biodiversity. Other changes include more localized information on visual quality, and new information on natural disturbance and the area covered by roads.

Sensitivity analyses: examining uncertainty

Because forests and forest management are complex and constantly changing, timber supply analysts assess how their timber supply forecast results might be affected by uncertainties in the inventory information and management practices. These uncertainties are generally examined through what are called sensitivity analyses, which the chief forester will consider in determining an AAC. The sensitivity analyses are useful for assessing how any changes in information or uncertainties and risks might affect timber supply.

In the Kamloops TSA, a number of sensitivity analyses were conducted to examine the stability of the timber supply. Some key sensitivity analyses are described below. For a complete listing of sensitivity analyses, please refer to the *2001 Kamloops TSA Analysis Report.*

Uncertainty about the long-term contribution of the partitioned areas

The base case harvest forecast excludes the land associated with the partitions for cedar/hemlock and Pulpwood Agreement 16 after 10 and 20 years, respectively, to correspond with the uncertainty about how these areas will be managed once the licences expire. As Figure 4 shows, if the areas associated with the partitioned harvest are included after the partitions expire, the short-term harvest level is projected to be 41,100 cubic metres per year higher and the long-term level 157,000 cubic metres per year higher than in the base case harvest forecast.

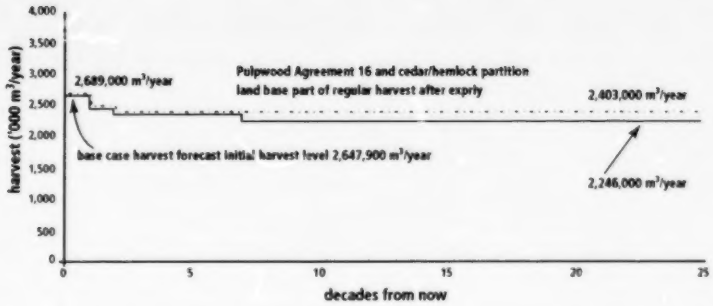


Figure 4. *Effects of uncertainty about the long-term contribution of the partitioned areas—Kamloops TSA, 2001*

Uncertainty in the application of biodiversity requirements

The Forests Practices Code describes the conservation of biological diversity as an essential consideration in the sustainable use of forests. For the base case harvest forecast, stand- and landscape-level biodiversity objectives were addressed by retaining wildlife tree patches and old forests. There is some uncertainty about the application of biodiversity requirements. Currently, the Kamloops LRMP requires that old-forest requirements for landscape units with low biodiversity emphasis options (BEOs) be achieved as soon as possible.

Fig. 5 shows that when biodiversity requirements for old forests and wildlife tree patches are removed, the base case harvest forecast remains the same for the first 20 years. As well, the mid-term harvest level can be maintained for 200 years instead of 70 years in the base case, before declining slightly to a long-term harvest level that is 2.5 per cent higher than the base case.

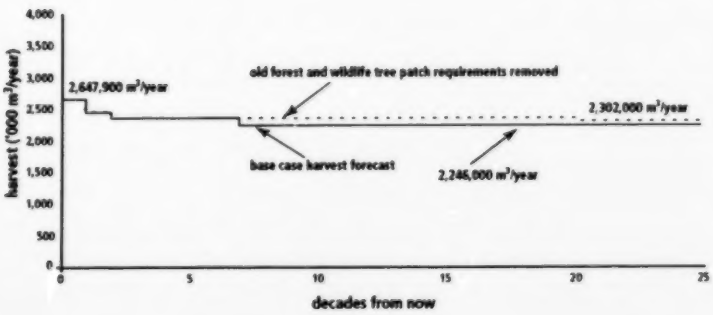


Figure 5. *Effects of uncertainty in the application of old forest and wildlife tree patch requirements—Kamloops TSA, 2001*

Innovative Forestry Practices Agreements

In July 1997, Interfor obtained an Innovative Forestry Practices Agreement (IFPA) covering an area near Adams Lake within the Kamloops TSA. IFPAs allow the holder to request an increase in the allowable annual cut associated with their replaceable licence. Based on these agreements, the Forest Service regional manager may determine increases to replaceable licence AACs. The IFPA process is not part of the Timber Supply Review in which the chief forester determines AACs for TSAs and TFLs. This discussion paper focuses on the Timber Supply Review process for the Kamloops TSA.

Implications of changes in the AAC

Community Implications

The implication of changes in the AAC for local communities is an important consideration in the Timber Supply Review. Given that the Kamloops timber harvest provides roughly 14 per cent of the basic employment in the TSA, changes to the timber supply would be expected to have a significant impact on the overall economic trends of the region. However, considering that the base case forecast indicates that the timber supply from conventionally harvested stands is stable over the next 70 years, it is expected that any impact on the community would be minimal.

Your input is needed

Establishing the AAC is an important decision that requires informed and thoughtful public input. Feedback is welcomed on any aspect of this discussion paper, the *2001 Kamloops TSA Analysis Report* and other issues related to the timber supply in the Kamloops TSA. Forest Service staff would be pleased to answer questions or discuss concerns that would help you prepare your response. Please send your comments to the forest district manager at the address below. **Your comments will be accepted until September 11, 2001.**

You may identify yourself on the response if you wish. If you do, you are reminded that responses will be subject to the *Freedom of Information and Protection of Privacy Act* and may be made public. If the responses are made public, personal identifiers will be removed before the responses are released.

A summary of public comments will be attached to the AAC rationale and will be available from the district office when the chief forester's AAC determination is announced.

For more information contact Gary Reay at the Kamloops Forest District. Send your comments by electronic mail to: Gary.Reay@gems7.gov.bc.ca

Submit your comments by regular mail to:
District Manager
B.C. Forest Service
Clearwater Forest District
Box 4501 R.R. #2
Clearwater, B.C. V0E 1N0
Phone: 250 587-6700; Fax: 250 587-6790

District Manager
B.C. Forest Service
Kamloops Forest District
1265 Dalhousie Drive
Kamloops, B.C. V2C 5Z5
Phone: 250 371-6500; Fax: 250 828-4627

Visit our Web site at www.for.gov.bc.ca/tsb

Background Information Regarding TSR

The Chief Forester's Responsibility

Determining the AACs for public forest lands in British Columbia is the responsibility of the province's chief forester. In this lengthy and complex process, the chief forester considers technical reports, analyses and public input, as well as government's social and economic objectives.

This responsibility is required by legislation in the *Forest Act*, Section 8. It states that the chief forester shall specifically consider the following factors:

1. The rate of timber production that may be sustained from the area, taking into account:
   - the composition of the forest and its expected rate of growth
   - the time that it will take the forest to become re-established
   - silviculture treatments, including reforestation
   - standards of timber utilization
   - constraints on the amount of timber that may be produced due to use of the forest for other purposes.
2. The short- and long-term implications to the province of alternative rates of timber harvesting from the area.
3. The nature, production capabilities and timber requirements of established and proposed processing facilities.
4. The economic and social objectives of the Crown for the area, region and province—as expressed by the minister of forests.
5. Abnormal insect or disease infestations, and major salvage programs planned for the timber on the area.

Some of these factors can be measured and analyzed—others cannot. Ultimately, the chief forester's determination is an independent professional judgment based on the best available information. By law, the chief forester is independent of the political process, and is not directed by the minister of forests when determining AACs. In these determinations, the chief forester considers relevant information from all sources.

Why the current AAC may be higher than the long-term harvest level.

Some concern has been expressed that the AACs are higher than the long-term harvest level. There are two main factors which explain this difference:

- In the short term, harvesting takes place in older forests which have accumulated high timber volumes by growing for a long time. Future harvesting on the same sites will take place in second-growth forests at younger ages, often yielding lower volumes per hectare.
- Where the long-term harvest level is significantly below the current AAC, the chief forester's strategy is to gradually reduce AACs in a managed transition to the lower level over several decades (provided the long-term harvest level is not jeopardized) to allow communities that rely on the forest sector to avoid sudden economic disruptions and to plan for the future.

BRITISH COLUMBIA